



*Shri mallikarjun Vaidyavardhak Sangh's
Smt. Rajeshwari Karpurmath Memorial(RKM)
Ayurvedic Medical College , Hospital & PG Research Centre, Vijayapur.*

EMERGENCY MAGEMENT

1: Status Asthmaticus

Bronchial asthma is well known for its episodic and chronic course which comes under the life threatening conditions which afflicts the human race.

It is a syndrome of variable airflow obstruction. It is characterized physiologically by bronchial hyper activity, pathologically by bronchial inflammation with prominent eosinophilic infiltration and clinically by variable cough, chest tightness and wheeze.

It causes respiratory symptoms, limitation of activity and flare-ups that sometimes requires emergency.

Status Asthmaticus: is an acute exacerbation of asthma that remains unresponsive to initial treatment with bronchodilators.

Pathophysiology: Asthma is associated with a specific chronic inflammation of the mucosa of the lower airways. The airway mucosa is infiltrated with activated eosinophils and T-lymphocytes and there will be activation of the mucosal mast cells. There will be structural changes in the airway.

*By Dr Priyadarshini A.M MD(Ayu)
Department of kayachikitsa
9740422413
am.priyadarshini@gmail.com*

A characteristic finding is thickening of the basement membrane due to sub-epithelial collagen deposition.

Inhalation of allergen (pollens, dust, sensitizers, virus, air pollutants



Stimulation of IgE sensitized masts cells (NK cells, dendric cells, T cells, B cells) on the mucosal surface



Degrannulation of the masts cells that releases mediators (histamins, prostanoids, cytokines,)

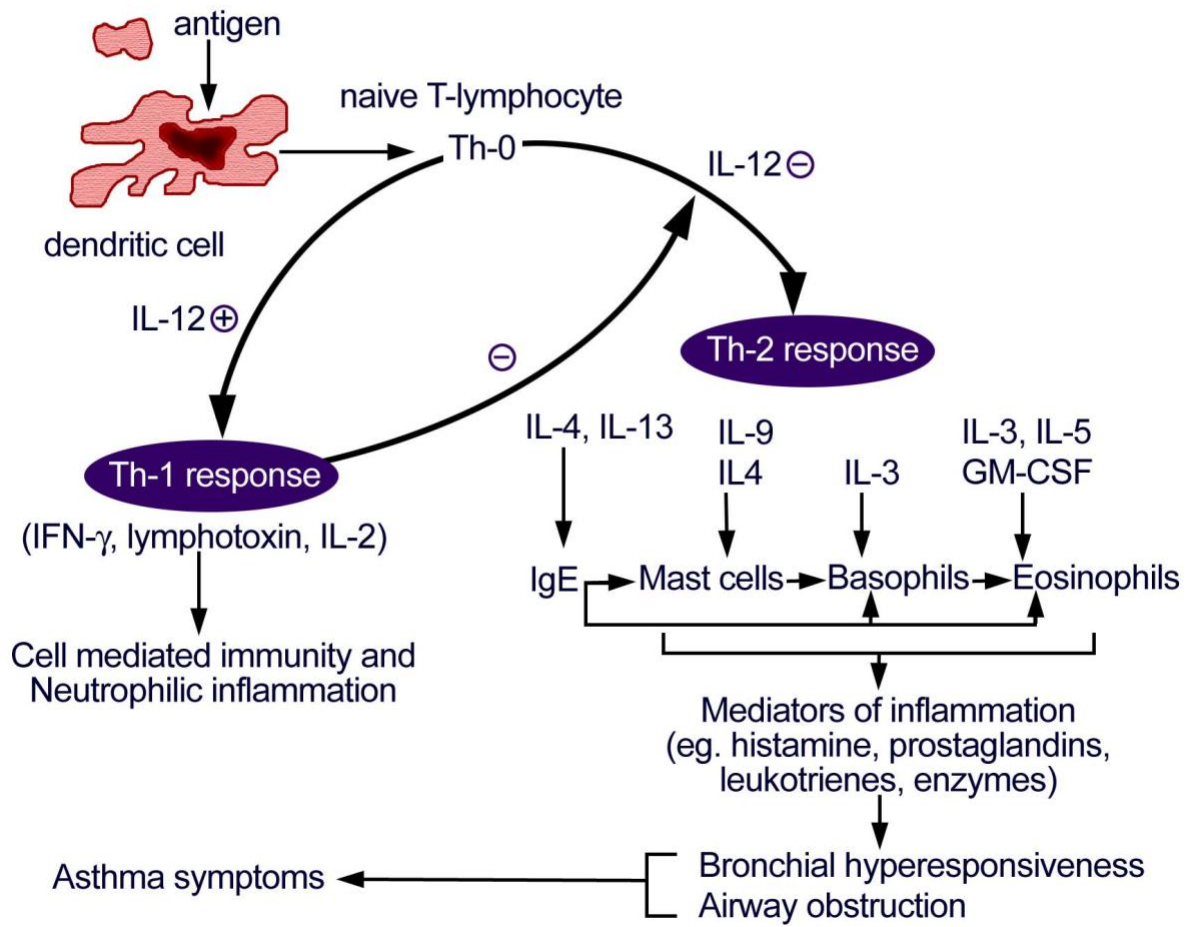


Due to which there will be activation of eosinophils and neutrophills and causes net effect as 1: Bronchospasm, 2: bronchial edema, 3: bronchial inflammation, additionally mucohyper secretion.(these are structural changes)

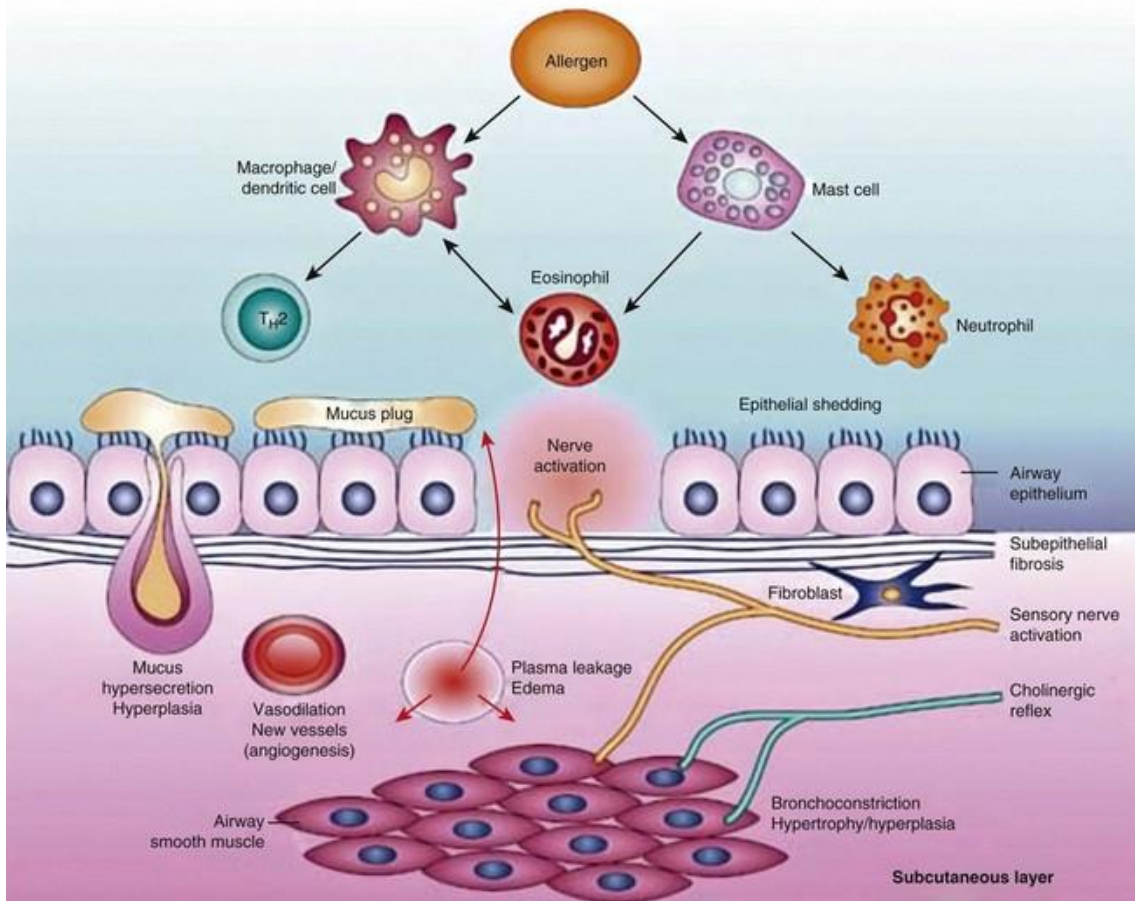
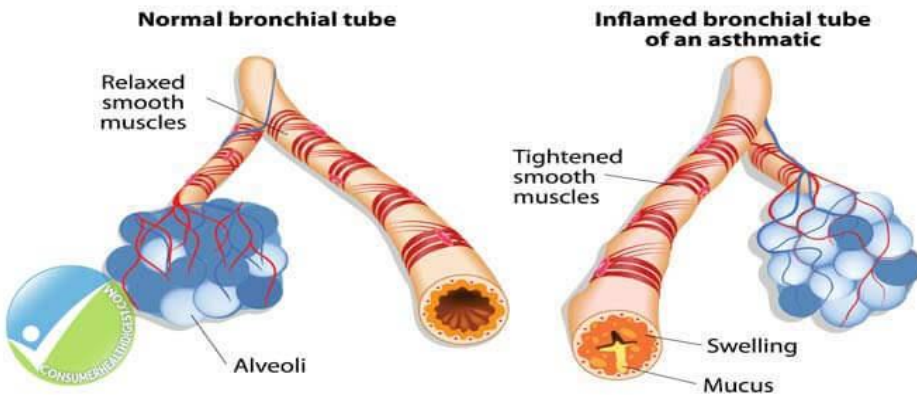


The combination of airway inflammation and muscle tightness, narrowing of airway causing symptoms clinically.

Pathogenesis of asthma



BRONCHOCONSTRICTION (ASTHMA)



Diagnosis of status asthmaticus :

- History of bronchial asthma(ask duration and onset)

- Severe wheeze/very dyspnoeic/ orthopnea
- Respiratory Rate: >30/min
- Cynosis/ drowsy
- Generalized expiratory Ronchi++
- Tachycardia >120/min / pulsus paradoxus
- PEFr <50%
- Spo2 <90%
- Pco2 <60mm/hg

Investigation:

PEFR, Chest xray, ABG, Complete blood count, serum creat, ECG (to rule out infection, cardiac cause or renal cause)

Management:

- 1. Reassure the patient (as anxiety worsens respiratory distress).**
- 2. Make patient sit in upright position(because there will be orthopnea)**
- 3. Start oxygen initially 50-60% initially, continue till the patient is better and not dyspnoeic.**
- 4. Intubate and ventilate if patient is unconscious (after proper diagnosis)**

Pharmacological management

- 1. Nebulised beta antagonists for immediate relief.
(Salbutamol or terbutaline- these are short acting beta adrenergic receptor agonists) can be nebulised with oxygen or via nebulizer. Salbutamol 5mg, 1ml with 1ml of normal saline stat. Repeat doses at 15min if required during the first hour.**

- Hourly for the next few hours till the Bronchospasm is controlled. Continue with 2-4 hourly doses if required.**
- 2. If nebulizer is not available or patient is uncooperative and cannot inhale from nebulizer, then consider – Inj Terbutalin 0.5mg SC Q6H**
 - 3. Secure an IV line for the administration of the antibiotics if there is evidence of infection**
 - 4. Glucocorticoids routinely given to all severe cases.
Note: their effect starts only after 3-6 hours and not immediately. Inj methylprednisolone 40-60 mg IV Q6H. or Iv Hydrocortisone 200mg IV stat and Q6H. Change over oral prednisolone 60mg OD when patient becomes better and taper over the next few days.**

If no relief:

- 1. Add nebulised Ipratropium bromide 0.5mg(1ml) stat and followed by 4th hourly.**
- 2. Intravenous Aminophylline 5mg /kg IV stat given slowly over 20min (250mg in 20ml of 5% dextrose)**
- 3. Adequate hydration and mucolytics.**
- 4. Avoid sedation**
- 5. Avoid chest physiotherapy in acute phase as it may increase distress.**